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10/542,552

07/18/2005

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29811

7035

7590

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EXAMINER

HAILEMARIAM, EMMANUEL

ART UNIT

PAPER NUMBER

2629

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/542,552

Applicant(s)

WEISSMAN, YITZHAK

Examiner

Emmanuel Hailemariam

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07/18/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 25-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/18/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/27/06</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 25 recites the limitation, "said tow color sets "lines 16 and 18. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 25,26, 30-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Divelbiss et al. (US 20010028416) .

**As to claim 25**, Divelbiss discloses Stereoscopic display apparatus comprising: two projectors having inputs connectable to a source of digital data (Fig. 1, 12 and 14) representing the color components sets of two stereoscopic images [0003], each of said projectors having an output outputting an optical beam having a set of color components in which at least one color Component of the set is of an orthogonal

polarization state with respect to the other color components of the set ([0027], fig.1 (P1, P2) ); a polarization preserving screen; an Optical filter system using exclusively optical retarders to manipulate said Polarization states for polarizing the output beams of the two projectors into desired mutually orthogonal polarization states; ( [0027] ,fig.9 (P1,P2) fig.10 (142,144) ), polarizing clean-up filters for increasing the polarization ratio of the output beams ( [0034], fig.9 (112,114) ) for onto said polarization preserving screen such as to enable stereoscopic viewing of the two color sets via orthogonally polarized filters ( ( [0035], figs.10-13) a polarization rectifier for each engine, retarders (fig. 10, 142 and 144), and to transform the beams outputted by the projection engines to beams in which all in such a manner that the two transformed beams have mutually orthogonal polarizations ([0035], fig.10 (142,144)) a polarization beam splitter for combining the transformed beams into one co-axial beam; and a projection lens for imaging the stereoscopic images on said screen, and stacking said tow color sets onto said polarization preserving screen such as to enable stereoscopic viewing of the two color sets via orthogonally polarized filters (fig.10 and 11, [0035]).

**As to claim 26,** Divelbiss discloses said optical filter system includes, for each projector (*see fig. 10, [0027], projector 1 or projector 2*), polarization rectifier (*polarization splitters*) which transforms a plurality of color components in different polarization states at the input into the same polarization state at the output by using exclusively said optical retarders (*reciprocal color separators & combiners*) for polarization manipulation ([0027], fig.10)).

**As to claim 30,** Divelbiss discloses each polarization rectifier includes a stack of said optical retarders, which align the polarizations of all the color components in desired directions (fig.6, fig.10; [0032]).

**As to claim 31** Divelbiss discloses the color components are red, green and blue and the polarization of the green component is orthogonal to the polarizations of the red and the blue components, ([0027, 0035] fig.10 (142,144, 148,152); optical retarders (fig. 10, (142) which rotate the green color component polarization direction by 90.degree [0006] polarization transformer.

**As to claim 32,** Divelbiss discloses said stacking means stacks the images outputted from said optical filter system by image warping onto said polarization preserving screen ([0035] fig.10 and 11).

**As to claim 33,** Divelbiss discloses each of said projectors is an LCD projector outputting red and blue color components in one polarization state, and green color components in an orthogonal polarization state ([0027, 0035] fig.10 (142,144, 148,152)).

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **27-29, 34-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Divelbiss et al (US20010028416) in view of Yamamoto et al. (US20020033932).

**As to claim 34** Divebliss discloses Stereoscopic display apparatus comprising: two projectors having inputs connectable to a source of digital data (Fig. 1, 12 and 14) representing the color components sets of two stereoscopic images [0003], each of said projectors having an output outputting an optical beam having a set of color components in which at least one color Component of the set is of an orthogonal polarization state with respect to the other color components of the set ([0027], fig.1 (P1, P2) ); a polarization preserving screen; an Optical filter system using exclusively optical retarders to manipulate said Polarization states for polarizing the output beams of the two projectors into desired mutually orthogonal polarization states; ( [0027] fig.10 (142,144 ) polarizing clean-up filters for increasing the polarization ratio of the output beams ( [0034], fig.9 (112,114) ) for onto said polarization preserving screen such as to enable stereoscopic viewing of the two color sets via orthogonally polarized filters ( ( [0035], figs.10-13 a polarization rectifier for each engine retarders (fig. 10, 142 and 144), and to transform the beams outputted by the projection engines to beams in which all in such a manner that the two transformed beams have mutually orthogonal polarizations ([0035], fig.10 (142,144)) a polarization beam splitter for combining ([0035], optical combiner) the transformed beams into one co-axial beam; and a projection lens for imaging the stereoscopic images on said screen[0004].

Divebliss does not teach a beam splitter and projection lens.

However, Yamamoto discloses a beam splitter and projection lens [0135].

It would have been obvious to one of ordinary skill in the art at the time of the invention to use Yamamoto's beam splitter and projection lens along with Divebliss's

display apparatus in order to prevent a reduction in the contrast due to the haze phenomenon as taught by Yamamoto [0139].

**As to claims 27 and 35,** Divebliss does not teach a beam splitter.

However, Yamamoto discloses a beam splitter [0135].

**As to claims 28,29,36 and 37,** Divebliss does not teach a dichroic mirror, a polarization beam splitter.

However, Yamamoto discloses a splitter is a dichroic mirror; splitter is a polarization beam splitter [0135].

**As to claim 38,** Divebliss discloses each polarization rectifier includes a stack of said optical retarders, which align the polarizations of all the color components in desired directions (fig.6, fig.10; [0032]).

**As to claim 39,** Divebliss discloses the color components are red, green and blue and the polarization of the green component is orthogonal to the polarizations of the red and the blue components, ([0027], 0035] fig.10, (142,144, 148,152); optical retarders (fig.10 (142) which rotate the green color component polarization direction by 90.degree [0006] polarization transformer.

### **Correspondence**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Hailemariam whose telephone number is 571-270-1545. The examiner can normally be reached on M-F 8:00am - 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emmanuel Hailemariam

09/10/07

  
AMARE MENGISTU  
SUPERVISORY PATENT EXAMINER